



Flame Robin, Moolort Plains.
Photo: Euan Moore

eBird Data Explorations

At our well-attended November joint meeting with Birdlife Castlemaine District, Richard and Margaret Alcorn from the Geelong Field Naturalists Club spoke about the value of large citizen science databases using eBird as a specific example.

After a quick review of methods for bird recording in Australia since the 18th century (patchy, opportunistic, often anecdotal and usually personal notebooks until the last 20 years), they showed how increasing numbers of records were used to build a valuable picture of our natural environment and birds in particular. During the 1980s the Royal Australasian Ornithologists Union (RAOU, now BirdLife Australia) organised a national survey of birds using the records of individual birdwatchers which was published as

the Atlas of Australian Birds and the Atlas of Victorian Birds. These atlases provided a geographical snapshot of where bird species occurred and their relative abundance. Around the turn of the century the second Atlas of Australian Birds provided an update on distributions and abundance.

The rise of the internet created new opportunities for citizen science. Eremaea Birds, developed by the Alcorns, provided a way for birdwatchers to record their sightings online. Meanwhile a data entry interface to the Birddata database maintained by Birdlife Australia was made available over the internet. Internationally eBird, developed by the Cornell Laboratory of Ornithology in the USA enabled birdwatchers across the globe to record their

sightings. In 2014 Eremaea Birds was merged into eBird to become eBird Australia.

Over the years it has become easier to record bird sightings. While lists and drawings in notebooks were the main records in the past, today most birdwatchers record their sightings in phone apps such as Birddata or eBird. iNaturalist is also used, mainly for opportunistic sightings where photos and sound recordings are available. The apps make it easy to record counts of each species and accurately record the location from the phone's GPS. Rarities and species outside their normal range are flagged during entry and for follow-up with the observer which improves accuracy of the data. The apps can also record the observer's path as they walk

The Castlemaine Field Naturalists Club acknowledges the Dja Dja Wurrung community as the Traditional Owners and Custodians of the Country where we meet and study the natural environment. We pay our respects to their Elders, past, present and future.

around the survey area and the time taken on the survey.

Digital cameras have removed much of the need for drawings in notebooks. Photographs have become an essential aid when validating unusual records.

The digital world has also had an impact on field guides. There are now apps or online field guides for most countries. Other tools such as the Merlin app (Cornell Laboratory of Ornithology) provide a field guide as well as attempting to identify bird calls in the field. At this stage Merlin call identification works best for species and areas where there are lots of records.

All these tools have resulted in an exponential growth in the number of recordings and photographs of birds. In Victoria the annual number of bird observations on eBird has grown from c100,000 in 2010 to 1,800,000 in 2024. In recent years there have been 130,000 – 140,000 bird

observations annually for the Mount Alexander Shire.

eBird allows you to explore the data and extract data for further analysis. There are tools within the website to assist you. Some of these tools are quite sophisticated in the way they present the data. **Fig 1.**

Using an eBird animation Richard demonstrated the example of the Sacred Kingfisher which is native to Australia, New Guinea, Indonesia, New Zealand and New Caledonia. The animation of eBird records across the year showed the migration patterns - a summer migrant for most of Australia, a winter migrant to Indonesia, New Guinea and surrounding islands but only weakly migratory in NZ and New Caledonia where most movements are altitudinal with birds vacating higher areas during the cooler months. You can view this animation for yourself at [https://science.ebird.org/en/status-and-trends/species/sackin1/abundance-](https://science.ebird.org/en/status-and-trends/species/sackin1/abundance-map-weekly?week=1)

[map-weekly?week=1](https://science.ebird.org/en/status-and-trends/species/sackin1/abundance-map-weekly?week=1) – click on the play button in the panel on the right to start the animation.

An animation of records of Flame Robin showed how this species is an altitudinal migrant, moving to higher altitude areas during the summer months and returning to the lowlands during winter. There may also be some migration across Bass Strait although it is not possible to be sure from the existing data. See: <https://science.ebird.org/en/status-and-trends/species/flareb1/abundance-map-weekly?week=1>

It is also possible to look at how bird populations move over time. The Song Thrush was introduced to the eastern suburbs of Melbourne in the 19th century. By the 1980s it had reached the Geelong area where it was frequently reported :but there were still no records from the Otway Ranges in the first Atlas of Australian Birds. However, between 2020-2025 there was only one record from the



Fig 1: Frequency of reporting and seasonal abundance of some species found in the Mount Alexander Shire. Note the strong migratory pattern shown by the Sacred Kingfisher. Source eBird.

Geelong area and now regular records from the Otway Ranges.

Like all citizen science databases there are significant biases and errors in the eBird data however these can be overcome to some extent. Birds may be misidentified. This is more of a problem at the edge of a species range. Distribution maps in field guides are too small to show the irregularities at the edge of a distribution. Observers away from their home may not be aware that the species they think they have observed, rarely, if ever, occurs in this particular area or habitat. They may 'record' a species as one they are familiar with but which does not occur in the area of their survey. These errors can be partially overcome by scrutineers who check anomalies. Again, photos are extremely valuable in this situation for proving the validity of a sighting.

Biases in the data may occur as a result of data collection method. "Good" birding sites may be sampled more often than sites where fewer species are found, possibly resulting in grassland species being under-reported. Weather and seasons may also influence the number of observers, surveys or time spent surveying. Use of standard survey methods and always recording all birds seen (complete survey) can help reduce the impact of biases.

Richard and Margaret have used reporting rates on complete surveys as one simple way to show population



Fig 2: Rainbow Lorikeet in the Castlemaine region 2010 – 2024: Mean cell reporting rate by year. There were no records from our area during the first "Atlas" (1978-82) and less than 10 records for the second "Atlas" (1998-2002).

and range changes for a species. This let them produce year-on-year graphs for several species in our region (Mount Alexander Shire and neighbouring local government areas). Keeping in mind that the eBird data only starts around 2010, the following trends in reporting rate from 2011 – 2024 for the Castlemaine region have been observed:

- Rainbow Lorikeet has risen from <2% of surveys in 2011 to around 11% in 2024. **Fig 2**
- Reporting of Weebills show an increase from <20% to >25%
- Brown Treecreepers show a slight but not significant decline in reporting rates
- White-browed Babbler, Diamond Firetail and Hooded Robin have all declined significantly in our region over this time period. **Fig 3**

eBird also provides a tool which allows the user to examine population trends for a species over its entire range. Looking at some familiar species, we saw that:

- White-browed Scrubwrens are increasing over much of their range but declining along the Queensland coast north of Brisbane
- Red-rumped Parrots are declining along the western slopes of NSW and the northern plains of Victoria

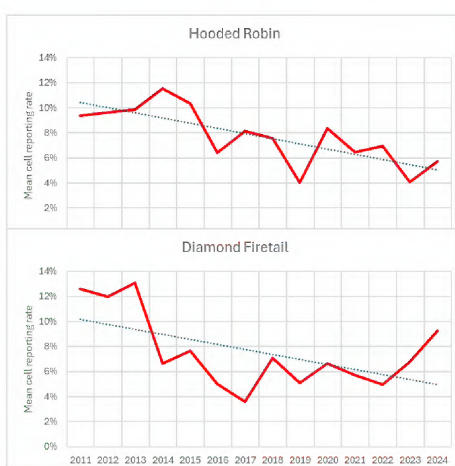


Fig 3: Hooded Robin and Diamond Firetail both show a decline in reporting rate over the last 15 years.

but are stable or increasing elsewhere within their range

- Eastern Yellow Robins are declining across most of their range.

There is a wealth of other information that can be derived from the eBird data and sometimes correlated with other data sources. For instance, looking at the eBird data for White-necked Heron and Pink-eared Duck for the Geelong region, Richard showed fluctuations in reported sightings without any trend. However, when these data are compared with rainfall data for inland sites (Longreach, Cunnamulla and Griffith) obtained from the Bureau of Meteorology, a picture emerges where low reporting in the south corresponds to high rainfall in inland Australia. **Fig 4.**

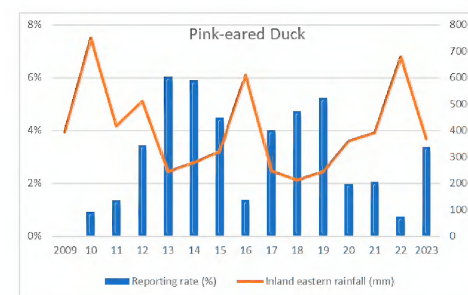


Fig 4: Reporting rate for Pink-eared Duck in the Geelong region plotted against rainfall in inland NSW and Qld.

This pattern shows up with many of our wetland species which are nomadic, chasing the inland floods and retreating to the coast during drought. In this way, Richard and Margaret showed us ways that we can use databases like eBird to learn more about and explain the patterns of change that we see in the environment.

To finish, I would like to give all our readers a challenge - pick a local species that fascinates you, use the citizen science databases such as eBird, Birddata, iNaturalist and Atlas of Living Australia to learn its story and write a short article for our "Castlemaine Naturalist"!

Euan Moore

Bird and wildflower walk, Maldon Historic Reserve

by Euan Moore

Our November excursion following our Friday night meeting, was a joint outing with members from both Birdlife Castlemaine District and our club. Around 25 people from both clubs took part in this morning excursion beside the Maldon Railway between Sinclairs Lane and the Muckleford trestle bridge. Morning is a better time to see birds and with Richard and Margaret Alcorn our speakers from the previous night with us to talk about the birds, the group managed to see around 50 species of bird. This walk passes through several environments including forest, open paddocks, a creek and wetlands associated with farm dams all of which contribute to the variety of birds in the area.

It wasn't all birds, however. Despite being late in the season, the botanists in the group found plenty to keep them occupied. So occupied that several did not make it all the way to the trestle bridge. There was still a lot of plants in flower, particularly in the forested section of the walk.

This walk is a good, easy walk for birding and in spring it also puts on a good wildflower display. Bird and plant lists for the morning follow.

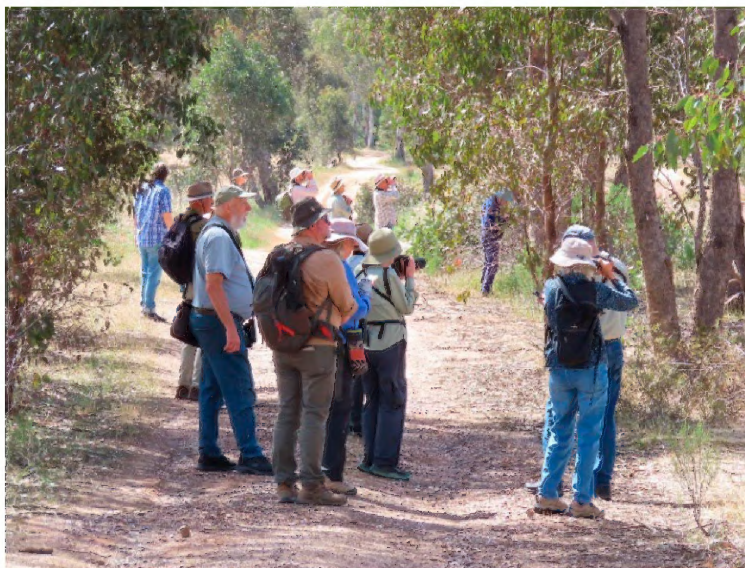


Photo: Lou Citroën

Bird list

Species (evidence of breeding)	Count	Species (evidence of breeding)	Count	Species (evidence of breeding)	Count
Pacific Black Duck	4	Eastern Rosella	2	Rufous Whistler	1
Australasian Grebe	1	Musk Lorikeet	10	Grey Shrike-thrush (Suggestive behaviour)	3
Horsfield's Bronze-Cuckoo	1	Little Lorikeet	2	Olive-backed Oriole	1
Shining Bronze-Cuckoo	H	White-throated Treecreeper	2H	Australian Magpie	4
Black-tailed Native-hen	1	Brown Treecreeper	4	Dusky Woodswallow	4
Black-fronted Dotterel	2	Superb Fairy-wren	10	Willie Wagtail	4
White-necked Heron	1	Red Wattlebird	6	Little Raven	1
White-faced Heron	1	Fuscous Honeyeater	6	Australian Raven	2H
Little Pied Cormorant	1	White-plumed Honeyeater (young out of nest)	14	Restless Flycatcher	2
Great Cormorant	1	Noisy Miner	1	Magpie-lark	2
Sacred Kingfisher	H	Spotted Pardalote	1	White-winged Chough	10
Laughing Kookaburra	1	Striated Pardalote	3	Jacky Winter	1
Galah	3	Weebill	3H	Eastern Yellow Robin	2
Long-billed Corella	9	Yellow-rumped Thornbill	1	Rufous Songlark	4
Sulphur-crested Cockatoo	3	Striated Thornbill	2	Fairy Martin	6
Red-rumped Parrot	2	White-browed Babbler (Nest with young)	4	Welcome Swallow	6
Crimson Rosella	2	Black-faced Cuckoo-shrike	1	Common Starling	2
H = heard					

The following plants were recorded as being in flower at the time of the excursion:

<i>Arthropodium strictum</i> , Chocolate Lily
<i>Brachyloma daphnoides</i> , Daphne Heath
<i>Burchardia umbellata</i> , Milkmaids
<i>Chrysocephalum apiculatum</i> , Common Everlasting
<i>Chrysocephalum semipapposum</i> , Clustered Everlasting
<i>Dillwynia cinerascens</i> , Grey Parrot Pea
<i>Dillwynia hispida</i> , Red Parrot-Pea
<i>Dillwynia sericea</i> , Showy Parrot-Pea
<i>Gonocarpus tetragynus</i> , Common Raspwort
<i>Grevillea alpina</i> , Mountain Grevillea
<i>Leptorhynchus squamatus</i> , Scaly-Buttons
<i>Leptorhynchus tenuifolius</i> , Wiry Buttons
<i>Ozothamnus obcordatus</i> , Grey Everlasting
<i>Podolepis decipiens</i> , Showy Podolepis
<i>Pimelea glauca</i> , Smooth Rice-flower
<i>Pimelea humilis</i> , Common Rice-flower
<i>Pultenaea pedunculata</i> , Matted Bush-Pea
* <i>Sanguisorba minor</i> , Salad Burnet
<i>Stylidium graminifolium</i> , Grass Triggerplant
<i>Tetralochea ciliata</i> , Pink-Bells
<i>Xerochrysum viscosum</i> , Sticky Everlasting
*Introduced



Matted Bush Pea, *Pultenaea pedunculata*



Showy Parrot-Pea, *Dillwynia sericea*



Common Everlasting,
Chrysocephalum apiculatum

Photos: Euan Moore

November Roadside Cleanup – a great outcome!

Our final Roadside Cleanup for 2025 was held on Monday 17th November. After a wet night and early morning, the rain held off while we collected about 300 litres of rubbish plus a few golf balls. We also collected about 40 refundable containers enabling us to donate about \$4 to YIMBY compost makers and keep about 20 litres of plastic and glass out of landfill. We saw some nice patches of Magenta Storksbill (*Pelargonium rodneyanum*, see photo). Thanks to Euan, Jenny, Helen D, Jan, Clodagh, Peter, Alison, Helen L and Geraldine.

Geoff Harris





Another good effort for our Great Southern Bioblitz Castlemaine Project, despite some of our stalwart observers being away, and some wet and windy conditions to challenge photography. This was the 5th year of our participation and we can again hold our heads proudly amongst other Projects from Australia and other countries. Have a look at our GSB 2025 Castlemaine Project webpage to see some great photos and interesting finds [Great Southern Bioblitz 2025: Castlemaine Region](#) · [iNaturalist](#).

It is interesting to consider the impact of the annual timing of the Bioblitz on our Project numbers across the three months of Spring. Weather conditions in each of those years obviously had a significant impact, with results for each month compared below across the five years:

September [2024] had the lowest numbers of observations and species for totals and ranked 5th for birds, plants and fungi, 3rd on spiders and 4th on mammals and insects

October [2021] ranked 3rd on total numbers of observations and species, 2nd on spiders, insects and plants, 4th on fungi and birds, 5th on mammals

October [2022] ranked 2nd on total numbers of observations and species, 1st on plants and fungi, 2nd on mammals, 3rd on birds and insects, 4th on spiders

October [2025] ranked 4th on total numbers of observations and species, 2nd on birds and fungi, 3rd on mammals, 4th on plants, 5th on insects and spiders

November [2023] was a stand-out month for numbers of observations and species in total as well as ranking 1st across all fauna categories [birds, mammals, insects, spiders] and 3rd on plants and fungi.

Focussing on this current year's Bioblitz, the numbers for both observations and species of birds were reassuring, with 271 observations over 82 species. Superb Fairy Wrens won the most sightings and it was delightful to see Red-necked Stints and Sharp-tailed Sandpipers represented. There were 29 observations of 12 species of mammals. No surprises that Eastern Grey Kangaroos were the most observed, and great to see an Australian Swamp Rat.

Plant observations numbered 940 with 296 species identified, down on all previous years with the exception

of 2024. Surviving in the bush is certainly challenging at present. There was pleasure though for orchid enthusiasts with 46 observations of 13 species. Sadly the invasive South African Weed Orchid also featured. But to give hope the endangered Fryerstown Grevillea was photographed with some healthy looking new growth. Surprisingly the fungi numbers were reasonable with 112 observations of 41 species.

There is certainly concern about the insect and spider numbers, both being the lowest of all five years. It was ominous to notice that the leaves on trees and other plants were largely without chew marks, and the pollinators on flowers were few and far between. No mosquitoes to bite us and very few spider webs or dwellings to observe. Lepidoptera were represented by 27 species of moths and 3 of butterflies. A nice find was the jewel beetle *Melobasis propinqua*.

Thank you to all who contributed. Every observation counts as we continue to add to the biodiversity databases, discovering and learning more about the non-human species with whom we share the planet and its future.

Mez Woodward

Date	Total observations / no. species	Birds	Mammals	Spiders	Insects	Plants	Fungi
Nov 2023	2479/725	375/85	34/15	65/29	738/255	113/296	66/29
Oct 2022	2180/630	195/63	30/8	26/14	274/112	1392/354	207/55
Oct 2021	1829/578	168/63	7/4	47/21	293/123	1221/320	54/25
Oct 2025	1558/536	271/82	29/12	17/11	166/84	940/296	112/41
Sept 2024	1208/388	98/58	10/3	33/21	205/87	807/186	28/17

A selection of observations from the Great Southern Bioblitz 2025 Castlemaine project.



Australian Swamp Rat. iNaturalist/lissiemegs



Melobasis propinqua jewel beetle. iNaturalist/lisa_au



New growth of Fryerstown Grevillea, *Grevillea oblecta*. iNaturalist/lisa_au



Tiny Rustyhood, *Pterostylis pusilla*. iNaturalist/harree



Sharp-tailed Sandpipers with 2 Red-necked Stints in foreground. iNaturalist/gggpellas

Observations



Southern Marbled Gecko, *Christinus marmoratus*. Photo: Jill Williams



Peter Turner

Juvenile powerful owl on 24/11/2025, four months after fledging.
Castlemaine Botanical Gardens.



Alison Radford

Alison was intrigued to know why this White-faced Heron visited her property in Mostyn St at this time of the year, even perching on her roof! It was suggested that frogs in the nearby street ditch may have been the attraction!

Kerrie Jennings - Duelling Eastern Brown Snakes

Kerrie came across these two brown snakes interacting on nearby farmland in Baringhup when out birding recently. Initially she thought that this might be courtship behaviour between a male and female snake, but on reading the following from the Australian Museum's website, she thinks it is most likely that these are two males in combat for a nearby female.



Aust Museum's website states: "**Breeding behaviours:** Breeding activity for Eastern Brown Snakes begins in mid to late spring. In the wild, males have been observed engaging in ritual combat for access to receptive females. The combating snakes intertwine tightly and wrestle for up to half an hour or more, with each snake trying to push down and overpower the other ...

In captivity, mating has been observed in mid-spring (early October), with copulation lasting for at least 4 hours ..."



Geoff Harris

Upper: Blue Pie-dish Beetle, *Pterohelaeus* sp.

Lower: Bark Cockroach, *Laxta granicollis*.

Barkers Creek



Peter Turner

Blue Tongue Lizard heading for cover through the weeds after being persuaded to move from its sunny spot next to my car tyre. Munro Court.

Peter Turner – More Munro Court fauna

Right: Trapezoid Crab Spider, *Sidymella trapezia*, with hover fly prey - and another meal stored nearby. On our *Indigofera australis* bush.

Below: Bronze Hopper, *Helpis minitabunda*, on our back fence.



Jill Williams

Fungi Snout, *Sandava scitisignata*, on the back veranda.



Mez Woodward

A European Honeybee with a very heavy load of Cape Weed pollen.



Spotted Sun Orchid, *Thelymitra ixioides*.
Large dark spots and a blue frill at the back.



Tiger Orchid, *Diuris sulphurea*, showing two
identifying spots on back of petal.



Red Parrot-pea, *Dillwynia hispida*, showing flower on
end of long stem.



Flying Duck Orchid, *Caleana major*.
Found near Moyston.

Orchid sighting

This orchid was seen at Rock of Ages, Maldon during a recent visit. The plant was solitary, about 15cm tall with several large flowers. The rosette of leaves at the base had already withered leaving just the flowering stem.

Correspondence with CFNC member and orchid expert, Russell Stanley, confirmed that this is *Pterostylis* sp. aff. *biseta* 'Maldon' indicating that it is known from the Maldon area but that it has not been formally described at either the species or sub-species level.

Russell says:

"In my last book I had it as *Pterostylis biseta*, but I'm not satisfied that it is that species, being consistently much shorter in stature than *Pterostylis biseta* usually is. I expect it should be regarded as a *P. biseta* subspecies. It seldom exceeds 20cm in height, but its floral characteristics are identical to *P. biseta*."

"There are probably a few hundred plants in the Rock of Ages vicinity. It is much more common around my home-town of Charlton where it grows around the Golf Club and on various 'mounts' in the locality. Flowering time in a normal year is mid to late October through to the start of December."

Thanks Russell!

Euan Moore



Photos: Euan Moore

**Snap
Send
Solve**

Found dumped rubbish in the bush?

Use the Snap Send Solve app to alert the relevant authority.

Snap - take a photo on your phone

Send - send the photo with a brief comment to Snap Send Solve using the app. The location is automatically attached to the photo.

Solve - your report will be sent to the relevant authority for solving!



From the Committee

We are finishing the year on a very positive note with the very welcome news that we have grants from SEANA, the Wettenhall Environment Trust and The Good Op Shop to help with the production of our new glossy brochure, *Butterflies of the Mt Alexander Region*. This is sure to be a very popular addition to the suite of information products we produce to encourage engagement with our region. Warm congratulations to Lou Citroën and the working group members Rosemary Turner and Kerrie Jennings.

We will launch the brochure at the February meeting, which will be a wonderful beginning to our 50th anniversary year. Also planned for next year is an upgrade to our history page on our website and a number of events to mark our 50th year, culminating in hosting other Victorian field naturalists for the SEANA meeting in October.

We thank the many members who have contributed to our very successful year and look forward to seeing as many of you as possible at our last meeting of the year on 12 December and final excursion or the year on Rock of Ages the following day.

Cathrine Harboe-Ree, Secretary

Coming Events in December

Monthly Meeting: Friday 12th December, 7.30pm

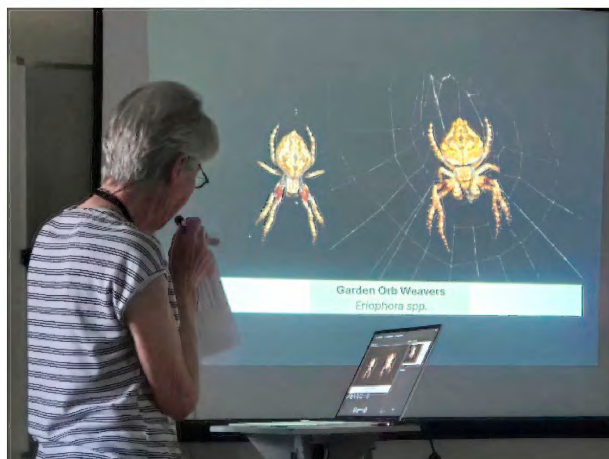
Uniting Church Fellowship Room, Lyttleton St.

Members' Night!

A chance for you to share your interesting nature observations and stories from the year. Did you see some interesting wildlife behaviour? A new reptile for your property? What interests you will interest us!

Email your photos to Jill Williams (jilliwill33@gmail.com) by noon on the day of the meeting or bring your presentation on a USB stick to the meeting. Contact Jill if you have any queries about your presentation.

Please bring a small contribution to a special end-of-year supper.



Excursion: Saturday 13th December, 1.30pm

"Rock of Ages, Maldon Historic Reserve."

Leaders: Euan Moore and Jenny Rolland

Join us for a ramble around the grassy woodlands near the summit of the Rock of Ages, Maldon. Spectacular views, soaring raptors, some special granite-area plants and interesting geology. Easy walking. Finish with afternoon tea.

Meet: for car-pooling and **1.30pm** departure at the northern end of the Car Park north of the Railway Goods Shed, Kennedy St. Castlemaine. Or meet at **2.00pm** at the start of the Rock of Ages track off Davies Lane, Maldon ([see Google maps](#)). The track to the summit is unsealed but reasonable for 2WD vehicles with care. We encourage car-pooling again here for the drive to the summit.

Bring: water, snacks, **clean** sturdy shoes, chairs, afternoon tea.



Rock Correa, *Correa glabra*.
Photo: Jenny Rolland



View from the Rock of Ages
Photo: Jenny Rolland

Program

Meetings: 7.30pm, 2nd Friday of the month. No meeting in January.
Venue: Uniting Church Hall (UCH), Lyttleton Street, Castlemaine except during winter (June-August) when they are held by Zoom.

Excursions are held on the Saturday following the monthly meeting and leave from the northern end of the car park north of the Railway Goods Shed, Kennedy St. at 1.30pm unless stated otherwise.

Challenge Bird Count, 6th-7th December

Information: CFNC website ([Challenge Bird Count – Castlemaine Field Naturalists Club](#)). **Contact:** Chris Timewell, c_timewell@hotmail.com

Fri 12th December, 7.30pm

Meeting (UCH) “Members’ night”

Your turn! Share your nature highlights for the year.

Sat 13th December, 1.30pm

Excursion: “Rock of Ages, Maldon Historic Reserve”

Leaders: Euan Moore, Jenny Rolland

See “Coming Events” page for Dec meeting and excursion details

Program for 2026

January – no meeting or excursion, but this is the time to search for Eltham Copper Butterflies, Sun Moths and other interesting flora and fauna! Check our website for useful brochures and information.

Monthly talks and excursions will resume in February.
Details will be emailed to members and posted on our website.

Visitors are welcome at club activities

SOUTH EAST AUSTRALIAN NATURALISTS’ ASSOCIATION - gatherings for 2026

Autumn: 27-29 March, hosted by Geelong FNC

Spring: 9-11 October, hosted by Castlemaine FNC
- helpers welcome!

Contact Peter Turner: munrods1@iinet.net.au

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Membership – fees due 1st April

Includes the monthly newsletter,
Castlemaine Naturalist.
(Membership forms on [CFNC website](#))

Single \$35, Family \$50

Pensioner or student:

Single \$25, Family \$30

Newsletter: Castlemaine Naturalist

Email items: newsletter.cfnc@gmail.com

February edition deadline: 30th Jan

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Geraldine Harris

*The Nodding Greenhood Pterostylis nutans is
the club emblem. Design by Rita Mills*

Disclaimer: The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club.